

1.95

LITTLE GIANT

Electric Drills

Direct Current

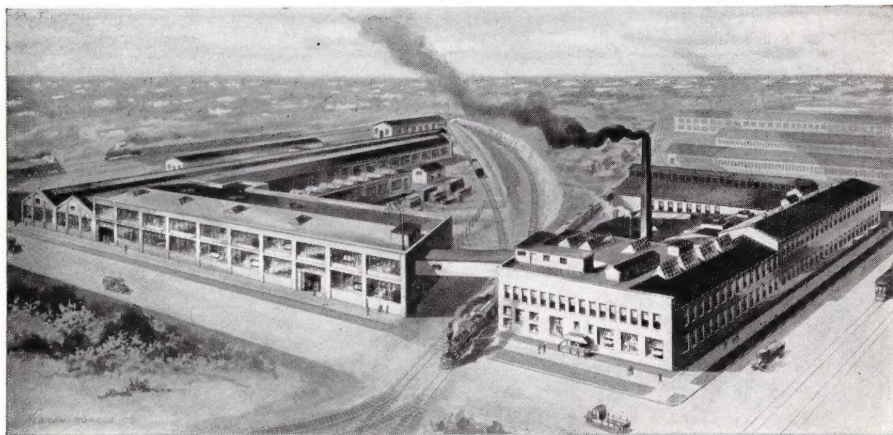
120 and 240 volts



Bulletin 581

Chicago Pneumatic Tool Company
U. S. A.

1.95



Plant where Little Giant Electric Tools are made
Erie Pa.

Foreword

THE heavy duty Electric Drills described in this bulletin were designed to meet the urgent demand for portable Electric Drills that will stand up successfully under the severe usage to which tools of this kind are subjected in industrial plants where rapid work is to be accomplished by comparatively unskilled labor. They are offered by a Company which has had 25 years' experience in building and marketing portable drilling and reaming tools, 15 years of which have been devoted to the designing and building of portable electric tools. This valuable experience has resulted in the perfected Little Giant Electric Drills.

In order to withstand severe usage, the material in Little Giant Drills has been distributed to the utmost advantage and results in large overload capacity, high efficiency, low temperature rise and long life. Among the many points of superiority possessed by these drills the following may be mentioned:

Improved Lubrication Arrangement of bearings and gearing.

Stub Tooth Gears made of high carbon steel carefully tempered.

Ball Bearings of the best grade used throughout.

Quick Acting Switch which makes it impossible for the operator to apply the current slowly or to draw a slow destructive arc when opening the circuit.

Cable Attachment which permits the renewal of cable without disturbing the other parts of the drill.

Safety First Attachment on the larger sizes, which causes the current to be cut off when the operator's hand is removed from the switch control lever.

Accessibility. Little Giant Drills can be dismantled in a fraction of the time required to take apart any other drill on the market. This is an important feature and will be appreciated by all tool room men and reflects favorably in maintenance costs.

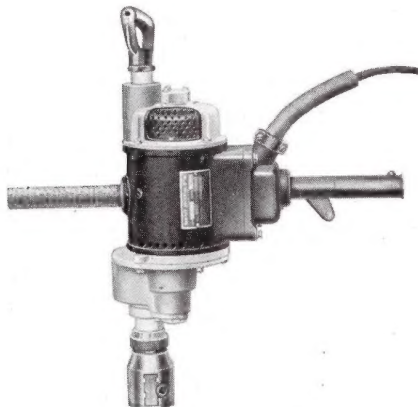
The Osborn Safety Device which effects the almost instant stopping of the drill when the current is shut off, can be furnished at extra cost on the larger sizes of drills. See Bulletin E-63.

If your conditions are in any way unusual or if you have any difficulty in selecting the proper size of drill for your work, our experience is at your service and the Electric Tool Sales Division of this Company will be glad to help you select the best tool.

No. 1B

Little Giant Electric Drill

Direct Current



THIS drill is a standard stock tool wound for 110 or 220 volts. It is adapted for drilling holes in metal up to $\frac{1}{2}$ -inch in diameter. In ordinary grades of wood up to $4\frac{1}{2}$ inches thick, it will bore 1-inch holes and a fine feed double twist bit is recommended. For boring in wood of greater thickness than $4\frac{1}{2}$ -inch, up to 18 inches, it will handle a $\frac{7}{8}$ -inch bit, and a single twist ship auger is recommended.

EQUIPMENT:

- Spade handle.
- Adjustable chuck, 0 to $\frac{1}{2}$ -inch capacity.
- Ten feet of two-conductor cable with Edison connector.

OPTIONAL EQUIPMENT:

- Feed screw in place of spade handle.
- Breast plate in place of spade handle.
- Wood bit chuck for $\frac{1}{2}$ -inch straight round shank augers in place of Adjustable chuck.

- No. 1 Morse taper socket to screw onto spindle in place of Adjustable chuck.

CODE WORDS AND FUSES:

- No. 1-B—110 Volts:
Code—Masably.
Fuse Recommended—6-ampere.
- No. 1-B—220 Volts:
Code—Masabor.
Fuse Recommended—3-ampere.

NOTE: At extra cost this drill can be furnished with special gear case carrying removable No. 1 M. T. Socket, but it is not carried in stock.

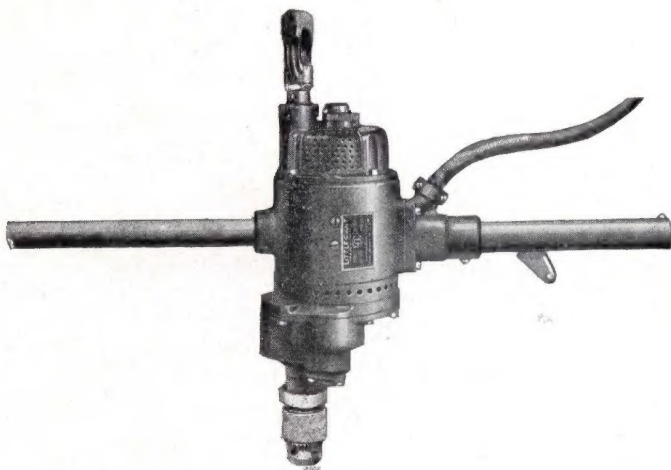
GENERAL DATA:

- Net weight in pounds..... 21
- Overall length spade handle to end of chuck in inches..... $18\frac{3}{8}$
- Overall length breast plate to end of chuck in inches..... $17\frac{1}{4}$
- Shortest length feed screw to end of chuck in inches..... 18
- Length of feed, with feed screw in inches $2\frac{1}{2}$
- Minimum distance from housing to center of spindle in inches.. $1\frac{1}{8}$
- Free Speed, R. P. M.....730
- Full Load:
- Approximate energy consumption, in watts.....470
- Approximate speed in R. P. M.375
- Maximum Load for Short Periods:
- Energy consumption, in watts.625
- Speed in R. P. M.....320

No. 1½-B Special

Little Giant Electric Drill

Direct Current



THE 1½-B Special Drill can be furnished wound for 120 and 240 volts. It is adapted for drilling in metal up to 5/8-inch and is especially recommended for heavy continuous 5/8-inch drilling with 5/8-inch round shank twist bits.

EQUIPMENT:

Spade Handle.
Adjustable chuck, 0 to 5/8 inch capacity.
Twenty feet two conductor cable with Edison Connector.

OPTIONAL EQUIPMENT:

Feed Screw in place of spade handle.
Removable No. 1 M.T. Socket in place of adjustable chuck.

GENERAL DATA:

Net weight in pounds.....	32
Overall length spade handle to end of chuck, in inches.....	20 1/4
Minimum distance housing to center of spindles, in inches.....	2 1/8
Free speed in R. P. M.....	490

Full Load:

Approximate energy consumption in watts.....	700
Approximate speed in R. P. M.....	165

Maximum Load for short periods:

Energy consumption in watts.....	950
Speed in R. P. M.....	130

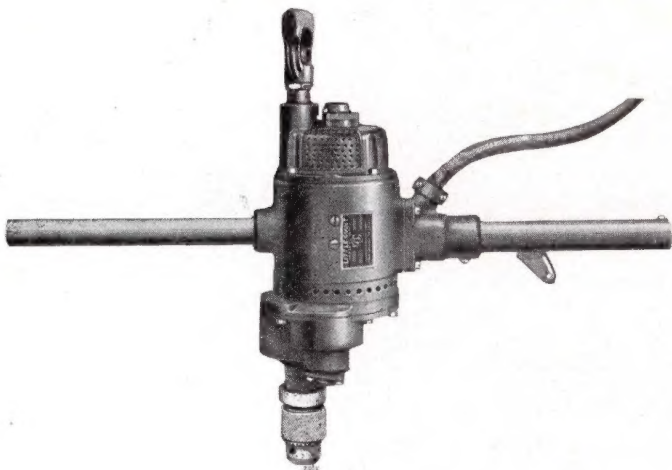
CODE WORDS AND FUSES

120 Volts		240 Volts	
Code	Fuse Recommended	Code	Fuse Recommended
Marsaroy	8 Amperes	Marsaroy	4 Amperes

No. 1 $\frac{1}{2}$ -BR Special

Little Giant Electric Drill

Direct Current



THE 1 $\frac{1}{2}$ -BR Special Drill can be furnished wound for 120 and 240 volts and is especially recommended for heavy woodboring and reaming. In ordinary grades of wood up to 4 $\frac{1}{2}$ inches it will bore 1 $\frac{1}{2}$ -inch holes and in greater thicknesses than 4 $\frac{1}{2}$ inches, it will bore 1 $\frac{3}{8}$ -inch holes when fine feed ship augers are used. For reaming in metal it will handle heavy 7/16-inch and light 9/16-inch reaming.

EQUIPMENT:

Spade Handle.
Adjustable chuck, 0 to $\frac{5}{8}$ " capacity.
Twenty feet two conductor cable (no connector).

OPTIONAL EQUIPMENT:

Removable No. 1 M. T. Socket in place of adjustable chuck.
Wood bit chuck for $\frac{1}{2}$ inch straight round shank augers in place of adjustable chuck.

GENERAL DATA:

Net weight in pounds.....	32
Overall length spade handle to end of chuck, in inches.....	20 $\frac{1}{4}$
Minimum distance housing to center of spindles, in inches.....	2 $\frac{3}{8}$
Free speed in R. P. M.....	825
Full Load:	
Approximate energy consumption in watts.....	1265
Approximate speed in R. P. M.....	340
Maximum load for short periods:	
Energy consumption in watts.....	1610
Speed in R. P. M.....	285

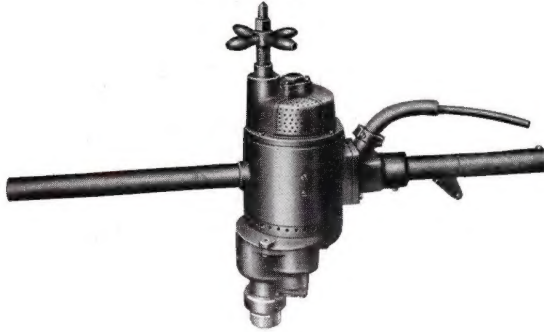
CODE WORDS AND FUSES

120 Volts		240 Volts	
Code	Fuse Recommended	Code	Fuse Recommended
Mabhatly	15 Amperes	Mabhatator	7 Amperes

No. 1 $\frac{1}{2}$ B

Little Giant Electric Drill

Direct Current



THIS drill is a standard stock tool wound for 120 and 240 volts. It can be furnished with any one of three gear ratios shown below. Gear numbers must be specified when ordering so as to get the drill adapted to the work.

The No. 13 and No. 16 gear ratios are adapted for high speed $\frac{3}{16}$ -inch reaming.

The No. 21 gear ratio is adapted for drilling in metal up to $\frac{3}{4}$ -inch. In ordinary grades of wood up to $4\frac{1}{2}$ inches thick it will bore $1\frac{1}{4}$ -inch holes and in thicknesses greater than $4\frac{1}{2}$ inches up to 18 inches, it will handle a $1\frac{1}{8}$ -inch fine feed ship auger.

The No. 2 M. T. Socket is used with all size drills regardless of gear ratio.

EQUIPMENT:

No. 13 and No. 16 gear drill equipped with spade handle.

No. 21 gear drill equipped with feed screw.

Removable No. 2 M. T. Socket.

Fifteen feet two-conductor electrical cable with Edison connector.

Woodbit chuck for $\frac{1}{8}$ -inch straight round shank augers and spade handle for drills required for wood boring.

GENERAL DATA:

Net weight in pounds.....	32
Overall length spade handle to end of drill socket, inches.....	18%
Shortest length feed screw to end of drill socket inches.....	17½
Length of feed, with feed screw inches.....	2½
Minimum distance from housing to center of spindle.....	1%

	No. 13 Gear	No. 1 Gear	No. 21 Gear
Free speed, R. P. M.....	750	595	490
Full Load:			
Approximate energy consumption in watts.....	700	700	700
Approximate speed in R. P. M.....	280	215	165
Maximum Load for Short Periods:			
Energy consumption in watts.....	950	950	950
Speed in R. P. M.....	225	175	130

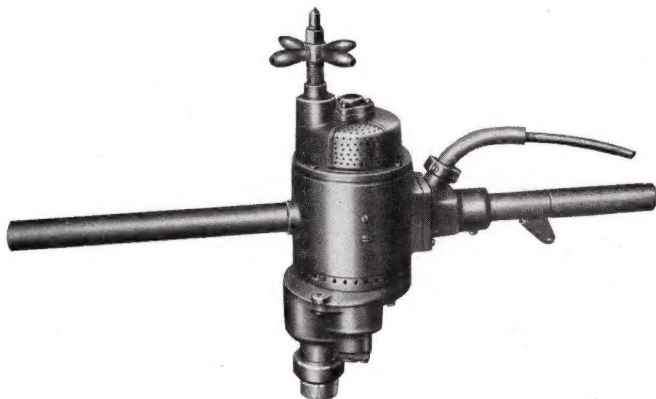
CODE WORDS AND FUSES

120 Volt			240 Volt		
Gear No.	Code	Fuse Recommended	Code	Fuse Recommended	
13	Manhatly	8 amperes	Manhator	4 amperes	
16	Megarly	8 amperes	Megaror	4 amperes	
21	Meteorly	8 amperes	Meteor	4 amperes	

No. 2B

Little Giant Electric Drill

Direct Current



THIS drill with No. 2 M. T. Socket is carried in stock for 120 and 240 volts. It can be furnished either with the No. 16 or the No. 21 gear ratio as indicated.

At extra cost, this drill can be furnished with a gear case carrying a No. 3 M. T. Socket, and equipped with either No. 14 or No. 21 gear ratio, but is not carried in stock.

Drills with No. 16 (No. 2 M. T.) and No. 14 (No. 3 M. T.) gears are especially adapted for heavy $\frac{1}{4}$ -inch reaming. Reaming drills are provided with spade handles.

Drills with No. 21 (No. 2 M. T.) gear are adapted for $\frac{7}{8}$ -inch drilling, and with No. 21 (No. 3 M. T.) gear for 1-inch drilling in metal. In ordinary grades of wood up to $4\frac{1}{2}$ inches thick they will bore $1\frac{1}{2}$ -inch holes and in greater thicknesses than $4\frac{1}{2}$ inches, they will bore $1\frac{3}{8}$ -inch holes with a fine feed auger.

EQUIPMENT:

No. 16 (2 M. T.) and No. 14 (No. 3 M. T.) equipped with spade handle for reaming.
 No. 21 (2 M. T.) and No. 21 (No. 3 M. T.) equipped with feed screw for drilling.
 No. 16 and No. 21 gear, equipped with removable No. 2 Morse Taper Socket.
 No. 14 and No. 21 gear, equipped with removable No. 3 Morse Taper Socket.
 Fifteen feet of two conductor electrical cable (with Edison connector).
 Wood bit chuck for $\frac{1}{2}$ -inch straight round shank auger and spade handle for wood boring.

GENERAL DATA:

	No. 2 M. T. Socket		No. 3 M. T. Socket	
	Gear No. 16	Gear No. 21	Gear No. 14	Gear No. 21
Net weight in pounds.....	45	45	50	50
Overall length, spade handle to end of socket, inches	19 $\frac{1}{4}$	19 $\frac{1}{4}$	21	21
Shortest length, end of feed screw to end of socket, inches	19	19	20 $\frac{3}{4}$	20 $\frac{3}{4}$
Length of feed, feed screw, inches.....	3	3	3	3
Minimum distance, housing to center of spindle, inches	2	2	1 15/16	1 15/16
Free Speed, R. P. M.....	515	395	580	395
Full Load:				
Approximate energy consumption, watts.....	1200	1200	1200	1200
Approximate speed, R. P. M.....	210	165	235	165
Approximate Load for Short Periods:				
Energy consumption, watts.....	1650	1650	1650	1650
Approximate speed, R. P. M.....	165	135	185	135

CODE WORDS AND FUSES

120 Volts				240 Volts			
Gear No. Socket No.		Fuse Recommended		Code		Fuse Recommended	
16	2 M. T.	Miragly	14 amperes	Miragor	7 amperes	Miragor	7 amperes
21	2 M. T.	Mendosly	14 amperes	Mendosor	7 amperes	Mendosor	7 amperes
14	3 M. T.	Mysorly	14 amperes	Mysoror	7 amperes	Mysoror	7 amperes
21	3 M. T.	Moosly	14 amperes	Moosor	7 amperes	Moosor	7 amperes

No. 3B
Little Giant Electric Drill
Direct Current



THIS drill is a standard stock tool wound for 120 or 240 volts. It is adapted for heavy continuous service and will handle drilling up to 1 1/4 inches and reaming up to 15/16-inch in steel. It can be furnished with either one of two gear ratios as shown below. The No. 15 gear is recommended where drilling only is to be done.

It is equipped with No. 3 Morse taper only.

EQUIPMENT:

- Spade handle or feed screw as specified.
- No. 3 Morse taper removable socket.
- Twenty feet electrical cable (no socket).

	With	
	No. 11 Gear	No. 15 Gear
GENERAL DATA:		
Net weight, in pounds.....	68	68
Shortest length, end of feed screw to end of spindle, in inches.	21 1/2	21 1/2
Length of feed available with feed screw, in inches.....	3 1/2	3 1/2
Minimum distance from housing to center of spindle, in inches	1 3/4	1 3/4
Free speed, R. P. M.....	485	370
Full Load:		
Approximate energy consumption, in watts.....	2100	2100
Speed in R. P. M.....	250	175
Maximum Load for Short Periods:		
Energy consumption, in watts.....	2300	2300
Speed in R. P. M.....	200	150

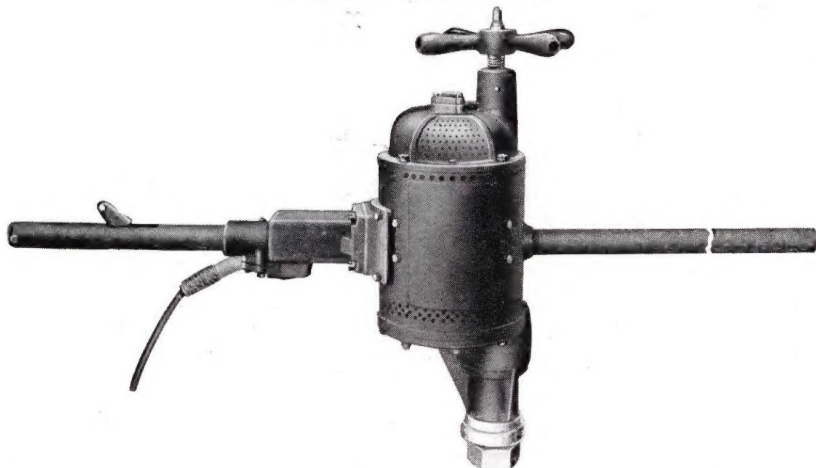
CODE WORDS AND FUSES

120 Volts		240 Volts	
Fuse		Fuse	
Gear No.	Code	Code	Recommended
11	Mantolly	Mantolor	10-ampere
15	Mantudly	Mantudor	10-ampere

No. 4B

Little Giant Electric Drill

Direct Current



THIS drill is a standard stock tool wound for 120 or 240 volts. It is adapted for heavy continuous service and will handle drilling up to $1\frac{3}{4}$ inches and reaming up to $1\frac{3}{16}$ inches in steel. It can be furnished regularly with any one of the three gear ratios shown below. The No. 21 gear is recommended where drilling only is to be done. It is furnished in the side spindle type only and with No. 4 Morse taper socket.

EQUIPMENT:

Spade handle or feed screw as specified.
No. 4 Morse taper removable socket.
Twenty feet electrical cable (no socket).

GENERAL DATA:

	With No. 13 Gear	With No. 17 Gear	With No. 21 Gear
Net weight in pounds.....	94	94	94
Shortest length, end of feed screw to end of spindle, in inches	24	24	24
Length of feed available with feed screw, in inches...	$3\frac{1}{2}$	$3\frac{1}{2}$	$3\frac{1}{2}$
Minimum distance from housing to center of spindle, in inches	2	2	2
Free Speed, in R. P. M.....	315	270	205
Full Load:			
Approximate energy consumption, in watts.....	3100	3100	3100
Speed, in R. P. M.....	195	145	115
Maximum Load for Short Periods:			
Energy consumption, in watts.....	4800	4800	4800
Speed, in R. P. M.....	175	120	100

CODE WORDS AND FUSES

120 Volts			240 Volts		
Gear No.	Code	Fuse Recommended	Code	Fuse Recommended	
13	Marshallly	30-ampere	Marshalor	15-ampere	
17	Marvelly	30-ampere	Marvelor	15-ampere	
21	Mascodly	30-ampere	Mascodor	15-ampere	

Care of Little Giant Electric Drills

It is of vital importance to have portable electric drills in first-class operating condition at all times and this can be accomplished by the exercise of a little care and attention. When the customer's plant is provided with a tool room, it is desirable to have the tools sent there occasionally to be looked over and if necessary put in the best possible condition. It is to be expected that natural wear of the brushes and commutators will take place; therefore, these parts should be looked at occasionally.

In order to assist in the care of electric drills, the following suggestions may be of benefit:

Lubrication: The gears of Little Giant Electric Drills are intended to run in grease and an opening in the gear case is provided for its insertion. We recommend the application of two or three tablespoonfuls of high-grade non-fluid oil to the gears every two or three weeks, when the drills are in constant operation. Every two months the gear case should be removed, the old grease cleaned out and a liberal quantity of fresh grease applied around the gears and bearings. We have found non-fluid oil, grade F-2 very satisfactory on the ball bearing type of Little Giant Drills. All of the bearings in the Type B Little Giant Drills are of the ball type and care should be taken to see that these bearings are supplied with the necessary grease for lubricating as outlined above.

Commutator and Brushes: Commutator and brushes should be examined occasionally to see that excessive wear is not taking place on either part. Removable enclosing covers permit the brushes and commutator to be examined without difficulty. The commutator should be kept fairly clean and the brushes should not be permitted to wear too short. The brush holders are provided with springs of the clock-spring type, which give a uniform pressure through a wide range, so that no adjustment is required after leaving the factory. The brush holders are carefully set in position for proper commutation and should not be tampered with. Use No. 00 sandpaper in cleaning the commutator. Never use emery cloth.

Ventilation: When the drills are being examined in the tool room, it is a good plan to clean out the air holes in the housing and enclosing covers. These should be cleaned from the inside, if possible, so as to remove the dirt, instead of pushing it into the machine.

Switch: The switch furnished with the Little Giant Electric Drill is of the quick-acting type and especially designed for these tools. We believe that it is the best switch ever produced for portable electric tools. The switch mechanism, which is located in the pipe handle of the switch, requires a small amount of oil at very long intervals. The switch contacts should be examined and cleaned occasionally. Under normal conditions of operation there should be no destructive arcing at the switch and the contacts will last for a long time.

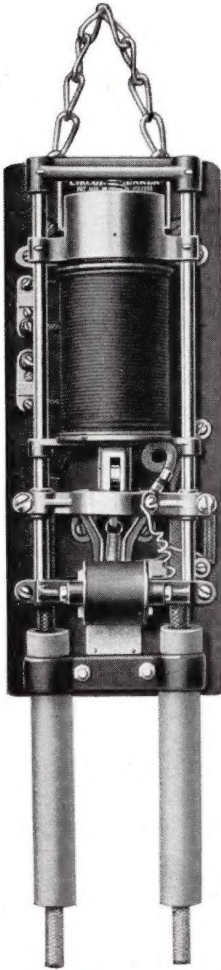
Cable: Little Giant Drills are furnished with a very high-grade electric cable, manufactured especially for tools of this character. Do not permit your workmen to drag the drills around by the cable or to drop heavy pieces on it.

Feed Screws: Do not use feed screws other than those furnished by this Company. A longer feed screw than our standard is apt to give trouble by being screwed down too far, thus breaking through the feed screw shield and cutting into the windings.

It will repay you to follow the above suggestions.

Little Giant Self-Setting Circuit Breaker

(Patented May 16, 1916)



This Circuit Breaker, which possesses many novel features, was designed for use with Little Giant electric tools, not only as a protection to the tools, but as a protection to the workmen as well. It may be placed anywhere in the drill circuit, as the self-setting feature makes its proximity to the tool unnecessary. The breaker is provided with two two-conductor cables, which are interchangeable so far as their connection to the line and the tool is concerned, thus obviating any special precautions in making connection. The circuit from the tool to the breaker is made by means of the ordinary two-conductor cable with which all Little Giant direct current tools are provided.

The breaker operates on the solenoid principle, with a series coil to open the circuit at a predetermined point and an air-actuated dash pot to prevent the opening of the circuit when the momentary rush of current occurs at the time of starting the tool. Liberal arcing space is provided and a magnetic blow-out disrupts the arc quickly and effectively. A shunt coil which provides magnetic flux for the blow-out also serves to hold the breaker open as long as the switch on the tool is left in. When this switch is released by the operator the breaker resets itself ready to start the tool as soon as the switch is thrown in again. The resetting of the breaker is so nearly instantaneous that very little time is lost when an overload does occur, causing the breaker to open; nevertheless, the operator soon learns just how much load he can apply without opening the breaker, and the result is that the tool is operated to its maximum capacity practically all of the time without endangering the windings of the drill.

The base of the Circuit Breaker is 5 inches wide by 12 inches long, and the entire mechanism is provided with a substantial pressed steel cover to protect it from injury. A chain is provided at the upper end so that it may be suspended at any convenient place.

The Little Giant Self-Setting Circuit Breaker is made for direct current only, and in capacities to take care of the No. 2-B Little Giant Drill and larger.

Important

A record is maintained of every electric drill sold by the Chicago Pneumatic Tool Company. When ordering repair parts, give the serial number as well as the size and voltage of the tool for which they are required. This will insure furnishing the correct parts as well as facilitate quick delivery. Accurate interchangeability is maintained on drills of the same size and type.

If any of your tools are lost or stolen, write us giving the serial number, and we can probably locate them sooner or later when they may come in for repairs.

An efficient Service Department is maintained at all of our principal offices, for the benefit of our customers.

Chicago Pneumatic Tool Company

Cable Address "Pneumatic"

Chicago Pneumatic
Building



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*Chicago. 300 No. Michigan Ave.
*Cincinnati, Ohio. Pearl and Vine Sts.
*Cleveland, Ohio. 109 St. Clair Ave., N.E.
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Bombay, The Consolidated Pneumatic Tool Co., Ltd., Pathe Bldg., Ballard Pier, Fort.

Japanese Empire

Osaka, Seoul, Tokyo, Horne Co., Ltd. (New York address: 51 Chambers St., N. Y.)

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(Sonora and Sinaloa) Chicago Pneumatic Tool Co., Los Angeles, Cal.

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